Baton Rouge Community College

Academic Affairs Master Syllabus

Date Approved or Revised: July 23, 2008

Course Name: Physical Science I
Course Number: PHSC 101

Lecture Hrs. 3 **Lab Hrs. 0** **Credit Hrs. 3**

Course Description: Gives students a greater appreciation for the wonders of the physical universe in which they live through a study of kinematics, Newton's laws of motion, rotational motion, fluids, thermodynamics, waves, the solar system and other key topics is astronomy. Not intended for science majors.

Prerequisites: Math 101 or 110
Co-requisites: Physical Science 101 L strongly recommended

Suggested Enrollment Cap: 30

Learning Outcomes: Upon completion of Physical Science 101, the student will be able to achieve the following with a 70% or better success rate:

- Demonstrate a fundamental knowledge of the basic laws and principles governing the nature of matter, motion, work and energy forms, fluids, waves, and special topics in astronomy on individual and group assignments and exams;
- Use a basic scientific vocabulary that relates to course content on assignments and exams;
- Recognize and explain many physical phenomena observed in the physical environment on assignments and exams;
- Use the scientific method in concert with the basic laws of physics to model, analyze, and interpret physical scenarios in the textbook to everyday life on assignments and exams;
- Use simple mathematical skills to solve problems which pertain to the physical environment on assignments and exams; and
- Relate physical science principles to everyday life on assignments and exams.

General Education Learning Outcomes: This course supports the development of competency in the following areas. Students will:

- Think critically, collect evidence (statistics, examples, testimony) and make decisions based on the evidence, comprehend and analyze texts, and solve problems using methods of critical and scientific inquiry;
- Communicate effectively using standard written English;

- Organize, analyze, and develop useful information useful by employing mathematical principles; and
- Relate the general concepts of science to the world and demonstrate an understanding of the impact of these processes and their concepts on human lives.

Assessment Measures: Assessment of all learning outcomes will be measured using the following methods:

- Individual instructor-designed exams will collectively assess all of the learning outcomes and will be administered during the semester as listed in the course syllabus;
- Individual instructor and departmentally-designed comprehensive final exam, adhering to a department-determined content, will assess all learning outcomes; and
- Individual Instructor-designed or collaborative instructor-designed assignments will be given as a portion of the total grade and will include homework, individual and collaborative group assignments and projects; all assignments will be graded using an instructor-designed rubric.

Information to be included on the Instructors' Course Syllabi:

- ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.

- ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor's and/or the department's policy for make-up work. For example in a speech course, "Speeches not given on due date will receive no grade higher than a sixty" or "Make-up work will not be accepted after the last day of class."

- ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.

- ***General Policies*:** Instructors' policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.

- ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.

- ***Safety Concerns:*** In some programs this may be a major issue. For example, "No student will be allowed in the safety lab without safety glasses." General statements such as, "Items that may be harmful to one's self or others should not be brought to class."

- ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

Expanded Course Outline:

I. I Scientific Method and Measurement
   A. Nature of curiosity, observation and order
   B. Data analysis
II. Kinematics
   A. Graphical analysis of motion
   B. Newton's Laws
   C. Application of Newton's Law
   D. Problems solving in force and motion
III. Conservation and Momentum
   A. Momentum
   B. Universal Law of Gravitation
IV. Energy Work and Power
V. States of Matter
VI. Heat and temperature
   A. Thermal energy
   B. Heat transfer and Thermodynamics
VII. Planetary Motion